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Patent

Claims 1 and 11 recite: "...patterning and etching the masking layer to form a hole therethrough, wherein the hole exposes the substrate; depositing a first layer over the masking layer and in the hole on the exposed substrate... wherein the plug substantially plugs up the slot."

Claim 24 recites: "...patterning and etching the first masking layer to form a hole therethrough, wherein the hole exposes the substrate; depositing a front side protection layer over the first masking layer and in the hole on the exposed substrate... wherein the plug substantially plugs up the slot"

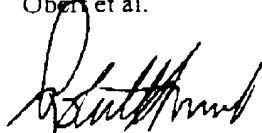
Claim 31 recites: "etching from a back side of the substrate to an interface of the substrate and the first layer at the plug, thereby substantially forming a slot in the substrate with the plug substantially plugging up the slot."

Because neither Lee et al, as applied above, Then et al, as applied above, Bower as applied above, Shimada as applied above, nor Lai as applied above teaches, suggests or discloses the claimed language of claims 1, 11, 24, or 31, these cited references cannot anticipate nor render obvious claims 1, 11, 24 and 31. Therefore, claims 1, 11, 24 and 31 are patentable.

Because claims 2-10, 12-18, 25-26 depend from either claims 1, 11, or 24, and contain additional limitations that are patentably distinguishable over the cited references, these claims are also considered to be patentable.

In view of the foregoing amendments and remarks, consideration and allowance of this application is respectfully requested. If the Examiner believes that a telephone conference with applicant's attorney, Lucinda Price, might expedite prosecution of this application, the Examiner is invited to call (858) 655-3251.

Respectfully Submitted,
Ober et al.



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Encl: Marked-up Copy of the Claims

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Patent

MARKED UP COPY OF THE CLAIMS

1. (Twice Amended) A method of manufacturing a slotted substrate comprising:

forming a masking layer over a front side of a substrate;

patterning and etching the masking layer to form a hole therethrough, wherein the hole exposes the substrate;

depositing a first layer over the masking layer and in the hole on the exposed substrate;

patterning and etching the first layer to form a plug in the hole; and

etching a back side of the substrate until a bottom surface of the plug is substantially exposed and a slot in the substrate is substantially formed, wherein the plug substantially plugs up the slot.

11. (Twice Amended) A method of manufacturing a fluid ejection device comprising:

forming a masking layer over a first surface of a substrate;

patterning and etching the masking layer to form a hole therethrough, wherein the hole exposes the substrate;

depositing a first layer over the masking layer and in the hole on the exposed substrate;

patterning and etching the first layer to form a plug in the hole; and

etching a second surface opposite the first surface of the substrate until a bottom surface of the plug is substantially exposed and a slot in the substrate is substantially formed, wherein the plug substantially plugs up the slot.

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Patent

24. (Twice Amended) A process comprising:
forming a first masking layer over a front side of a silicon substrate;
patterning and etching the first masking layer to form a hole therethrough, wherein the hole exposes the substrate;
depositing a front side protection layer over the first masking layer and in the hole on the exposed substrate;
patterning and etching the front side protection layer over the hole;
forming a second masking layer over the back side of the substrate;
patterning and etching the second masking layer;
etching a back side of the substrate with an alkaline etchant until a bottom surface of the front side protection layer in the hole is substantially exposed and a slot in the substrate is substantially formed; and
etching with a buffered oxide etch to remove the front side protection layer after etching the back side of the substrate to form the slot through the substrate, wherein the plug substantially plugs up the slot.